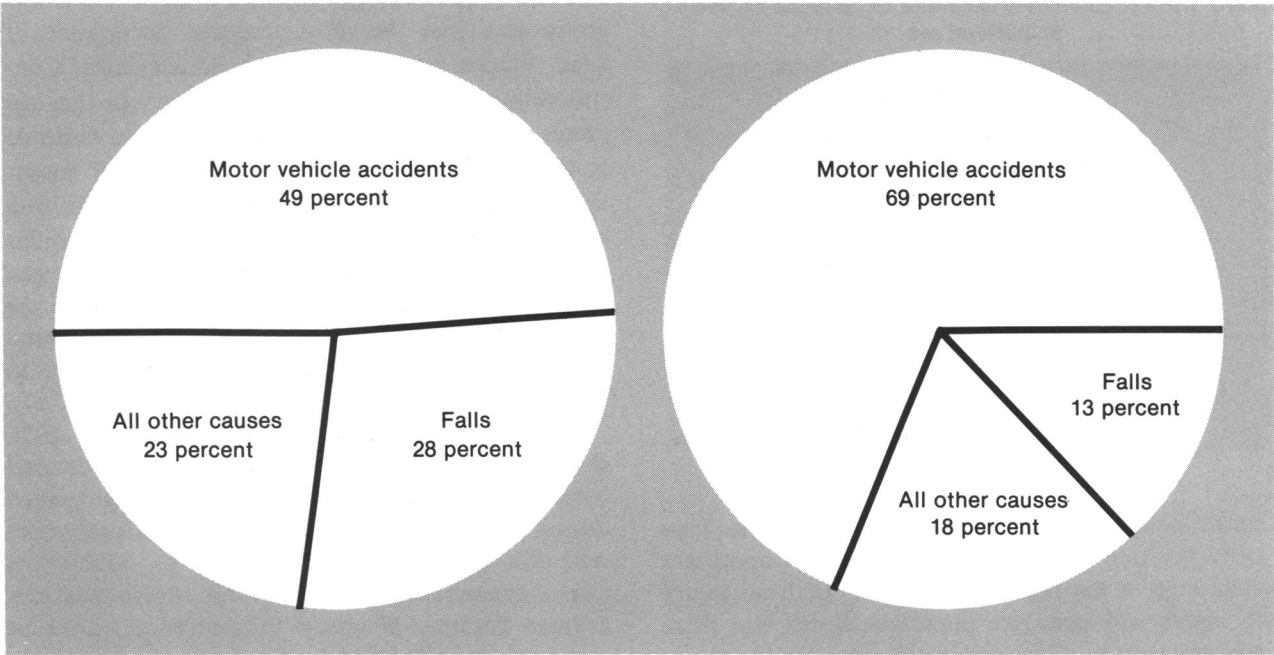


Figure 2. Causes of head injury (left) compared with distribution of \$2.4 billion in direct medical care and indirect costs, by cause of head injury (right), 1974. See reference 1 for definitions of direct care and indirect costs



The HSCI Survey emphasizes the magnitude of the consequences of head injuries in the United States: the large number of injury victims, the use of hospital beds, and the financial costs. Moreover, the contribution of motor vehicle accidents to this major socioeconomic problem is enormous.

Assessment of the Survey

The HSCI Survey was not a full-scale epidemiologic investigation; the clinical verification of injury cases was not extensive. Nevertheless, the survey represents a major effort, and its results will be useful to people of diverse backgrounds—from health professionals to relatives of injury victims.

The survey results, for 1974, provide a benchmark by which specialists interested in head injuries can make informed guesses about current levels of morbidity and related health costs. The results increase in importance because the HSCI Survey has not been replicated in the United States, nor is it likely that a comparable survey will be carried out soon because of budget constraints and the high cost of such research.

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Evaluation of an Extended Degree Program in Public Health for Working Professionals

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SYNOPSIS

The faculty of the School of Public Health, University of California at Berkeley, developed an extended degree program in health services administration for persons who could not attend the university full time. Course formats were redesigned so the courses could be taught off campus in Sacra-

mento and in the San Francisco Bay Area. The extended degree program was designed to be the equivalent of the in-residence program in all respects: the minimum number of units required for the degree was the same and regular faculty taught in both programs. The course of study for the two programs was similar; a major difference, however, was that many more electives were available to on-campus students. Two cohorts of extended degree students were admitted (34 and 37), and 61 completed the program. This article evaluates the success of that program.

Evaluation began in 1980, 4 years after the first cohort, and 2 years after the second cohort were graduated—sufficient time for the graduates and faculty to reflect on their experiences. By the measures used—entering grade point average, graduating grade point average, and scores on a common comprehensive examination—the two groups were comparable. Faculty and students alike evaluated the program favorably. All but one graduate stated that they would recommend this program to others if it were available.

ALTERNATIVE APPROACHES to traditional academic degree programs are not a new idea. Called by many names—extended university, extended degree, open university, and university without walls—these programs allow students to complete their work for a degree while continuing to work full time, maintain home responsibilities, or live long distances from campus (1). While the intentions of continuing education and an extended degree may be similar, only the latter program leads to an advanced degree.

Professional schools have taken a lead in the development of post-baccalaureate external degree programs because of pressure from two groups. First, faculties of professional schools recognize the need for continuing education as a way of transferring new ideas generated within the academic community to the field. Second, experienced nonprofessionals working in the field have been interested not only in upgrading their skills and knowledge, but also in earning credentials. It is, perhaps, significant that professionals who already have credentials, and the professional associations to which they belong, have not been a significant pressure group, nor have the universities themselves viewed such programs as a means of demonstrating the relevance of institutions of higher learning to the world they serve (2). In the words of the Commission on Nontraditional Study, education must be responsive to the world it serves or suffer from the danger of becoming static and lifeless (3). The commission added that universities supported by public funds must, in addition, demonstrate their relevance to their constituency or lose political support. The purpose of this report is to evaluate one extended degree program.

Background

In 1972, a survey was carried out by the Program of Continuing Education in Public Health, a con-

sortium of five schools of public health in the West, to determine the nature and size of the market for extended degree programs in the western part of the country (4). In the study it was found that of approximately 500,000 persons employed in health agencies in the Western States, 70,000 held bachelor's degrees, while only 4 percent held advanced public health degrees. The market for an extended degree was large: 8,000 persons indicated interest in enrolling in such a program. The majority indicated interest in the specialty of health administration.

Based on this information, the extended degree program at the School of Public Health, University of California, Berkeley, began in the 1973–74 academic year. As one of many begun by various schools of the university, it was funded by a special 3-year appropriation with the long-range goal of having the State legislature permanently fund it. The three goals of the program were (a) to provide advanced preparation in public health to groups who might not be able financially to return to school full time (b) to provide a program of excellence that would be equivalent to the in-residence program in all ways, and (c) to encourage educational innovation.

Beginning in the winter of 1974, a cohort of students was enrolled in a health administration program that was taught in Sacramento. Twenty-four students completed their degree requirements in June 1976. A second cohort of students, primarily from the San Francisco Bay Area, was enrolled in a similar program begun in winter 1976. They completed their degree requirements in June 1978.

The program was terminated not long after the second cohort was admitted, when the governor eliminated all extended degree programs from his budget allocations for the 1977–78 academic year. The university honored its commitments to enrolled

'... these programs allow students to complete their work for a degree while continuing to work full time, maintain home responsibilities, or live long distances from campus.'

extended degree students, but no new students were admitted.

Evaluation Design

The evaluation consisted of two parts. First, we used a two-group design to evaluate differences between the extended degree students (study group) and in-residence students (comparison group). To control for faculty and curriculum changes, an in-residence cohort was selected which enrolled at the same time as the extended degree cohort. Extended degree students were compared with full-time public health administration and planning students. The comparison group for the extended degree cohort of 24 beginning the program in winter 1974 was the in-residence cohort of 27 students who began the program during the fall of 1973. The comparison group for the extended degree cohort of 35 beginning the program in the Bay Area in the winter of 1976 was the in-residence cohort of 28 who entered the program in the fall of 1975. The second part of the evaluation focused on attitudes and perceptions of the extended degree program. Internal comparisons were made between the students who enrolled in the Sacramento group and the Bay Area group.

Data collection. Multiple sources and methods were used to collect data. After consulting with faculty and a small number of graduates from each of the two cohorts, we developed a 70-item, self-administered questionnaire, and sent it to each participant. The questionnaire was designed to evaluate each of the following areas: initial goals, relevancy of course work to job, format of course work, grading process, faculty responsiveness to extended degree students, employer responsiveness, relationship of master of public health (MPH) degree to salary, and extent to which the program met student goals. Questionnaires were completed and returned by 48 persons

or 87.5 percent of those who participated in the extended degree program. Data from this questionnaire were used to evaluate the program's first and second goals cited previously.

In addition, each extended degree group was compared with an in-residence group enrolled at the same time on the Berkeley campus. Demographic factors were compared as well as grade point averages (GPAs). GPAs were taken from specific courses (and comprehensive examinations) rather than the entire course of study, which varied for each in-residence student. Data from this analysis came from student records and were used to evaluate the program's second goal—to provide a program of equivalent excellence to the in-residence program.

Faculty members who had participated in the extended degree program were interviewed to evaluate their motivations for participating, whether the program had met their objectives, and the importance they placed on an extended degree program. Data from these interviews are incorporated into our analyses and recommendations.

Curriculum. The extended degree program in Sacramento offered eight courses taught by faculty from the University of California, Berkeley. This first cohort (Sacramento) took electives at the nearby University of California at Davis and Sacramento State University campuses. The second cohort (Bay Area) took special courses taught by Berkeley faculty and had the additional option of enrolling in regularly scheduled classes on the Berkeley campus. Both extended degree groups were required to take the same six core courses.

Breadth in public health was provided by offering course work in biostatistics and epidemiology. Breadth in health administration was provided by offering courses in health planning, microeconomics, organizational behavior, and medical care administration. In addition to the core courses, Berkeley faculty taught a course in community organization and a course in consultation methods for the Sacramento group. For the Bay Area group, the additional courses were in macroeconomics and in organizational theory. Each group completed unit requirements by taking electives from Berkeley faculty or from approved courses at other universities. Each cohort completed a minimum of 36 quarter units, the same requirement as for similarly experienced 1-year, in-residence students. For a more detailed discussion of the Berkeley program, see "Development of an Extended MPH Degree Program in the Western United States." (5).

Findings

Meeting program goals. The results of the evaluation are organized so that conclusions can be made as to the degree to which each stated goal was met.

Goal 1. To provide opportunities for advanced preparation in public health for persons ordinarily precluded from receiving such preparation.

Data on the sociodemographic characteristics of the extended degree and in-residence students allow us to see who came to the program as well as similarities and differences between the two groups. Students enrolling in the extended degree program differed in a number of ways from those who enrolled in the in-residence program. The extended degree program had slightly more women, and the students were slightly older at the start of the program than those in the comparison group selected from the in-residence students. The major difference between the two groups was ethnic background: the extended degree students were more likely to be white than were the in-residence students. We were also interested in the academic background of the students. Previous degrees were divided into four categories: bachelor of arts (BA), bachelor of science (BS), professional graduate degree (for example, physician or dentist), and nonprofessional graduate degree. As indicated

in table 1, there were few differences between students in the programs with regard to previous education.

The difference in minority enrollees in the two programs could be explained by special minority programs in the School of Public Health and by the lack of a pool of minority applicants. When the extended degree program was in operation, two active programs also were in operation that brought minority applicants into the school and into the administrative sciences program. The Native American Program and a minority enrollment program appear to have played an important part in meeting affirmative action goals.

In analyzing who was accepted into the extended program, one must also ask how many students actually applied. A total of 10 persons who were members of minorities applied to the 1974 extended degree program. Seventy percent were accepted, and three minority students withdrew before completing the program. There were 38 white applicants to the program; 71 percent were accepted, and 3 students withdrew before completing the program.

In comparison, 14 persons who were members of minorities applied to the 1976 extended degree program; 50 percent were accepted, and 1 student withdrew before completing the program. The acceptance to application ratio was slightly higher for the white applicants: 60 percent of the 62 applicants were accepted, 30 actually enrolled, and 3 withdrew before completing the program. These data suggest that the program's difficulty in enrolling qualified minority applicants resulted from an insufficient pool, a problem of recruitment rather than of selection bias. The in-residence program did much better during the same time period, as special minority recruitment and retention programs existed, providing a pool of qualified applicants.

Work experience. The two groups were expected to differ in this dimension too. As can be seen in table 2, the mean length of paid work experience was longer for the extended degree students (7 years) than for the comparable in-residence group (4 years). Differences were also found in the settings where the two groups had worked. Most extended degree students (51 percent) worked in community clinics or public health agencies, which were also the major sources of work experience for the in-residence students (24 percent). In both groups there were equivalent percentages of students working in hospitals (22 percent). In descending order of importance were private agencies (16 percent of ex-

Table 1. Characteristics of extended degree and in-residence students

| Characteristic | Extended degree (N = 55 ¹) | In-residence (N = 50 ¹) |
|---|---|--|
| Gender (percent): | | |
| Male | 53.0 | 40.0 |
| Female | 47.0 | 60.0 |
| Ethnicity (percent) ² : | | |
| White | 84.0 | 44.0 |
| Black | 11.0 | 28.0 |
| Asian | 4.0 | 8.0 |
| Chicano | ... | 6.0 |
| Native American | ... | 10.0 |
| Other | 1.0 | 4.0 |
| Age in years (mean) ³ | 36 | 30 |
| Degree held (percent): | | |
| Bachelor of arts | 36.0 | 38.0 |
| Bachelor of science | 26.0 | 28.0 |
| Professional graduate degree .. | 27.0 | 28.0 |
| Nonprofessional graduate degree | 11.0 | 6.0 |
| Years since last degree (mean) ⁴ | 9.0 | 4.0 |

¹ Number of students completing program.

² $\chi^2 = 20.48$, df 5, $P < 0.001$.

³ $t = 4.81$, df 103, $P < 0.001$.

⁴ $t = 4.79$, df 103, $P < 0.001$.

Table 2. Prior work experience of extended degree and in-residence students

| Experience | Extended degree (N = 55 ¹) | In-residence (N = 50 ¹) |
|--|---|--|
| Years of paid work experience (mean) ² | 7.0 | 4.0 |
| Work setting (percent) ³ : | | |
| Public health community | | |
| clinic | 51.0 | 24.0 |
| Hospital | 22.0 | 22.0 |
| Private agency | 16.0 | 20.0 |
| Private practice (MD, DDS) .. | 6.0 | 14.0 |
| Business | 2.0 | 2.0 |
| Other | 4.0 | 18.0 |
| Job responsibilities (percent) ⁴ : | | |
| Administrative-supervisory ... | 66.0 | 28.0 |
| Teaching-counseling | 4.0 | 10.0 |
| Short-term tasks | 2.0 | 8.0 |
| Other | 29.0 | 54.0 |

¹ Number of students completing program.

² $t = 3.23$, $df\ 103$, $P < 0.001$.

³ $\chi^2 = 12.34$, $df\ 5$, $P < 0.05$.

⁴ $\chi^2 = 15.37$, $df\ 3$, $P < 0.001$.

Table 3. Academic potential and performance: comparison between extended degree and in-residence cohorts

| Comparison | Extended degree (N = 55 ¹) | In-residence (N = 50 ¹) |
|--|---|--|
| Entering grade point average ... | 3.2 | 3.1 |
| Final core course grade point average | 3.6 | 3.6 |
| Biostatistics ² | 3.8 | 3.3 |
| Epidemiology ³ | 3.7 | 3.2 |
| Health planning ⁴ | 3.8 | 3.5 |
| Comprehensive examination (percent): | | |
| High pass | 14.5 | 22.0 |
| Pass | 54.5 | 54.0 |
| Low pass | 23.5 | 24.0 |
| Fail | 5.5 | ... |
| Missing data | 2.0 | ... |

¹ Number of students completing program.

² $t = 5.3$, $df\ 71$, $P < 0.001$.

³ $t = 5.0$, $df\ 76$, $P < 0.001$.

⁴ $t = 3.94$, $df\ 94$, $P < 0.001$.

tended degree students and 20 percent of in-residence students), private medical or dental practice (6 percent and 14 percent), and business (2 percent each).

Students' records were assessed to determine what they had done in the type of jobs they held. Three types of activities were recorded—administrative-supervisory tasks, teaching and counseling, and short-term tasks. Extended degree students tended to be more experienced and more likely to have had

administrative-supervisory experience than the comparable group of in-residence students.

Goal 2. To provide a program of excellence comparable to that offered to in-residence students.

The in-residence program offered students a much wider range of electives that generally were not available to extended degree students. Graduate division regulations permitted only 6 units to be transferred from other universities and applied to the 36-unit minimum requirement. Since the Bay Area cohort could take regularly offered Berkeley courses on campus, few of them transferred units to fulfill the minimum unit requirement. Most of the Sacramento group did transfer units. To ensure excellence of instruction, it was decided that all courses would be taught by the regular faculty who would receive course-for-course relief if they taught in the extended degree program.

In addition to an equivalent curriculum, efforts were made to admit only students who would be admissible to the in-residence program. As indicated in table 3, the entering GPA was slightly higher for the extended degree students than for the in-residence students.

Two outcome measures are available to evaluate the academic equivalence between the extended degree and in-residence programs. The first measure is a student's final GPA; the second is the results of the comprehensive examination.

Final grade point average. A final, adjusted grade point average was calculated for the student groups. The GPA was calculated for each of the common set of courses (for example, biostatistics, epidemiology, health planning, and microeconomics). The final GPA included only courses taken by both groups of students. In this way, the effect of elective courses not available to the extended degree students was controlled.

The final GPA for both groups was the same (table 3). For both groups, the final GPA was higher than their entering GPA. When a GPA for core courses was calculated, the extended degree group received a significantly higher GPA than did the in-residence students in biostatistics, epidemiology, and health planning. No significant differences were observed for the other core courses, and they are not included in table 3.

Comprehensive examination. Results of the comprehensive examination provide a second measure of

outcome. The faculty elected to give the same examination to both groups of students. The examination for the class of 1976 differed from that given to the class of 1978. For both years, students were given a choice between essay questions. In 1978, a series of short-answer questions replaced one of the essay questions. The comprehensive examination was graded by the faculty as high pass, pass, low pass, and fail. Students receiving low pass or fail grades were usually given an oral examination as well. The extended degree students did as well on the comprehensive examination as the in-residence students (table 3).

In conclusion, analysis of grade point averages and comprehensive examination scores indicates that students in the extended degree program did as well as those in the in-residence program.

Goal 3. To encourage innovation in educational methods.

It was also envisioned that the extended degree program would provide incentives for the faculty to try innovative educational methods. The major innovation was the use of intensive workshop-type class formats. Such a method was advantageous for two related reasons:

- All of the students were expected to be holding full-time positions. As a prerequisite to their acceptance, employers were required to give the student 5 days off work per quarter. The intensive format could easily meet this time constraint.

- Since off-campus locations were planned as sites for the extended degree program, faculty as well as some students might need to travel to the classes. The intensive format would require less travel time to and from the off-campus locations.

The intensive format was the major mode of instruction for the first extended degree cohort in Sacramento. The intensive format was used less by faculty for the second cohort (Bay Area). For this group, approximately one-third of the classes met weekly for 3 to 4 hours, another third met biweekly for 6 to 8 hours, and the rest met in 2-day sessions several times during the quarter. Since the extended degree courses for the Bay Area cohort were given on the Berkeley campus, faculty had a wider latitude for class format. Not surprisingly, some chose to have more frequent class meetings. Most classes were held in the late afternoon or evening.

Both groups of students were asked to evaluate the course format from two perspectives: Which format best maintained continuity of course materials?

'... analysis of grade point averages and comprehensive examination scores indicates that students in the extended degree program did as well as those in the in-residence program.'

Which format did you prefer? The Sacramento group students were more likely to agree that courses scheduled intensively helped maintain continuity (82 percent), while 55 percent of the Bay Area group agreed. In response to the same question regarding the weekly format, 80 percent of the Sacramento group agreed and 89 percent of the Bay Area group agreed that this format helped maintain continuity of course work.

The majority of both groups indicated their preference for weekly sessions—56 percent of the Sacramento group preferred this format and 71 percent of the Bay Area group preferred it. Both groups indicated their preference for classes to be held on weekdays rather than weekends (71 percent of the Sacramento group and 85 percent of the Bay Area group). The majority of the Sacramento group preferred morning sessions (67 percent), while the majority of the Bay Area class preferred afternoon class meetings (57 percent).

There is also evidence that faculty members changed their methods of teaching to make them more appropriate for intensive sessions and for students both working and attending school. One instructor, for example, indicated that she made extensive changes in her course because she found that the extended degree student wanting and needing course materials whose application to the world of practice was more obvious. In other courses, faculty members indicated that they varied lecture and case discussions to break up intensive-format class sessions. In a third course, video taped lecture material was also used.

Meeting students' expectations. The extent to which the extended degree program met the goals of the students was also a concern of the evaluation. To assess the extent to which these goals were met, we first considered the students' major reasons for applying to the program. We did this first since their evaluation of the program itself might reflect how well these expectations were met.

Table 4. Student goals at beginning of program by importance, Sacramento and Bay Area cohorts

| Goal | Importance of goal (percent) | | | |
|---|------------------------------|----------|-------------------|----------|
| | Most Important | | 2d most Important | |
| | Sacramento | Bay Area | Sacramento | Bay Area |
| Acquire background knowledge in administration and planning | 31.5 | 50.0 | 31.0 | 22.0 |
| Enhance career potential | 31.5 | 32.0 | 12.5 | 26.0 |
| Acquire specific skills | | 7.0 | 6.0 | 13.0 |
| Obtain master of public health degree | 37.0 | 11.0 | 38.0 | 17.0 |
| Improve performance in job held at beginning of program | | | 12.5 | 22.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |

Student goals. Asking the students to rate their reasons for applying to the extended degree program after the fact biases the responses. For example, their initial reason for applying may have changed over the course of the program. We also cannot be sure that we are being told their real reasons for applying; instead, the responses may be biased toward their expectations of what the faculty perceives as legitimate reasons for obtaining an MPH degree.

Respondents were asked to rate the goal statements in order of importance at the beginning of the program. In table 4, the responses to this query are organized by perceived importance. Rated first by the Sacramento group was "obtaining an MPH degree." Tied for second place was "enhance career potential" and "obtain a broad background of knowledge in administration and planning." The Bay Area group rated this last response first and "enhancing career potential" second.

Combining the first and second most important goals provides a second measure of the relative importance of each of the goal statements. The results reinforce the previous findings.

Relevancy of course work to work. Another way of evaluating the program from the participants' perspective is to determine how relevant the course work was to the jobs the students held. A list of courses taken was provided, and participants were asked to rate these courses for relevancy to either the job held at the start of their program or to a job they aspired to if they anticipated leaving their present job. Courses were rated from most relevant (5) to least relevant (1).

All courses rated by the Sacramento cohort had means that ranged between 3 and 4. Courses rated by the Bay Area cohort ranged between 2.6 and 4.6; however, 90 percent of all course work had means of 4 or above. The three courses rated most relevant

Table 5. Courses rated most relevant to current and anticipated jobs for each cohort

| Program and course | Mean |
|--|------|
| Sacramento program, 1974-76, 19 students: | |
| Public health statistics | 3.94 |
| Microeconomics of health services | 3.89 |
| Advanced medical care administration | 3.88 |
| Bay Area program, 1976-78, 28 students: | |
| Health planning | 4.59 |
| Microeconomics of health services | 4.29 |
| Macroeconomics of health services | 4.14 |

and the mean ratings for both cohorts are found in table 5. It should also be noted that the first group was offered one course in health economics. Subsequently, the course was divided into microeconomics and macroeconomics.

The curriculum for the Sacramento program was more restricted than that of the Bay Area program due to its off-campus location. Two-thirds of this group felt that other courses should have been required. Finance and other management courses were most frequently suggested. The Bay Area cohort had many more options from which to choose. They were exposed to more economics, legal aspects of administration, health care finance, and advanced administrative theory. About half of this group felt that other courses should have been required. Frequently cited were more courses in business, evaluation, and applied epidemiology. Several suggested that the legal aspects of administration should have been required rather than offered as an elective.

Overall, the Bay Area group rated the courses higher than the Sacramento group. The Sacramento group gave the faculty their first exposure in teaching health professionals already in management positions within the field. Course content, as well as the courses offered to the second group, were consider-

ably altered after receiving evaluations and suggestions from the Sacramento group. That the ratings for the second group were higher suggests that faculty members learned from their experience with the first class and succeeded in making the courses more relevant. The courses judged most relevant were those taught by the same instructors for both cohorts; this observation provides further evidence for this explanation.

Financial analysis. It is difficult to calculate the true cost of the extended degree program, just as it is for the in-residence program. The problem of intangibles and hidden costs is compounded for the extended degree since it was a "pilot program" and the budget was never "regularized"; that is, the budget was an annually negotiated add-on to the school's regular instructional budget. Furthermore, the academic salary proportion of the budget was always calculated at a low step for assistant professor, and the student to faculty ratio was higher than the regular ratio, even allowing for the part-time attendance of the students. In other words, the budget was less than it should have been and, hence, the cost per student is understated.

Nevertheless, comparisons can be made. The Association of Schools of Public Health has developed a procedure for estimating the cost of education per student. The most recent calculation is based on 1979-80 expenditures and enrollments. Adapting these procedures for the School of Public Health's Department of Social and Administrative Health Sciences (in which all the extended degree students were enrolled), the cost per student is estimated to be \$7,755. Using the same procedures, we estimate the annual cost of education per extended degree student to be \$2,879, based on university funds received over the 5-year "life" of the extended degree program.

Theoretically, the annual cost of educating an extended degree student should be approximately one-third that of a full-time student, since the former takes about one-third the units per year as does the latter. However, faculty members have pointed out that there is the added cost of their time in advising additional students (three extended degree students instead of one full-time in-residence student). There are also direct outlays that included travel, rental of space, and auxiliary libraries.

In sum, the cost for an extended degree program will be slightly higher per student (approximately \$8,637 for the required 3 years vs. \$7,755 per annum) than a traditional program. The additional cost

(a factor of 1.11 to 1) may well be outweighed by the fact that persons who otherwise could not enroll are able to obtain advanced education in public health.

Conclusions

Graduates of the extended degree program found it to be highly rewarding. Overall, 95 percent of the Sacramento group and 85 percent of the Bay Area group agreed that the program had met their goals.

When the followup questionnaire was being developed, extended degree graduates who were State and county health agency employees were interviewed. During these interviews, many of the graduates advised the staff that many of their coworkers were interested in obtaining an MPH degree through a part-time program such as the extended degree program. All of the Sacramento group and 96 percent of the Bay Area group stated they would recommend this program to others if it were available.

All nine faculty members who taught in the program were interviewed and were favorable to the program. Most felt that the extended degree program was an extremely important and a necessary option for people working in the health field. With one exception, all faculty members interviewed stated they would be willing to teach in the extended degree program again providing there were tangible rewards. What would such rewards be? The faculty's responses included (a) finding out more about people working in the health field, (b) more contact with professional community, (c) opportunities to teach people already holding jobs, and (d) the opportunity to teach specialized courses more frequently during the year, thus reducing preparation time.

Faculty members of the School of Public Health at Berkeley are considering reinstituting the extended degree program in health services administration. However, the budgetary system used for the health sciences by the University of California does not allow for part-time students. Therefore, an extended degree program will require additional funding, an unlikely prospect in the near future.

Other schools of public health have experimented with off-campus extended degree programs (as opposed to part-time, on-campus programs). At some schools, these programs have been discontinued (Johns Hopkins), but they continue to exist at other schools (the Universities of Michigan and North Carolina). Still other schools have begun programs (the Universities of Hawaii and Washington).

This report has spoken to the effectiveness of the

extended degree program in meeting both faculty and student goals. The report suggests that the program was effective, and that it is meeting an identified need in the community. It also links the university to the community it serves. In an era of apparent lack of understanding by the public of the need for government services, it appears that the extended degree program might also provide a necessary link between the school of public health and the public it serves, generating favorable publicity as well as a power base.

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Case Mix and Surrogate Indicators of Quality of Care Over Time in Freestanding and Hospital-Based Nursing Homes in Colorado

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SYNOPSIS

Broad case mix and surrogate indicators of quality of care were examined to assess (a) annual varia-

tions in these factors in Colorado's nursing homes over a 3-year period and (b) differences between hospital-based and freestanding nursing homes in the State. The findings pertain to 19 hospital-based and 138 freestanding nursing homes, and they are based largely on analyses of secondary data that were self-reported by nursing home staffs and collected through facility-level surveys conducted by the Colorado Professional Standards Review Organization and the Colorado Department of Health.

The results suggest that case mix and quality change little from one year to the next for nursing homes. Based on the relatively crude case mix and quality indicators analyzed, there appears to be some evidence to suggest that case mix may be more complex and quality of care better in hospital-based nursing homes than in freestanding nursing homes. Further verification of the results, however, requires more refined measures of case mix and quality of care.

THE RATIONALE FOR EXAMINING CHANGES in nursing home case mix and quality over time rests with a number of issues that can be broadly divided into patient care, regulatory, and reimbursement topics.

First, the degree to which the needs of patients change over time, such as from one year to the next, has substantial implications for care planning, staffing, and facility characteristics. If it is likely for